



Micro Commercial Components

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# TZX2V4 THRU TZX36

## 500mW Silicon Zener Diodes

### Features

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- available with tighter tolerances
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

### Mechanical Data

- Case: Standard Glass Case
- Marking : Cathode band and type number

### Maximum Ratings\*

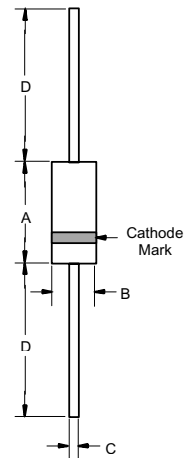
	Symbol	Value	Units
Max. Steady State Power Dissipation at $T_L=25^{\circ}\text{C}$ , $l=4\text{mm}$	$P_D$	500	mW
Junction Temperature	$T_J$	175	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to 175	$^{\circ}\text{C}$
Thermal Resistance( Junction to Ambient)	$R_{thJA}$	300	K/W

### Electrical Characteristics @ 25°C Unless Otherwise Specified

	Symbol	Maximum	Unit
Max. Forward Voltage @ $I_F=100\text{mA}$	$V_F$	1.5	V

Note: 1. Lead in Glass Exemption Applied, see EU Directive Annex 5.

### DO-35



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	---	.166	---	4.2	
B	---	.079	---	2.00	
C	---	.020	---	.52	
D	1.000	---	25.40	---	

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Type	V <sub>Zmin.</sub> (V)	V <sub>Zmax.</sub> (V)	Type	V <sub>Zmin.</sub> (V)	V <sub>Zmax.</sub> (V)	r <sub>Zmax.</sub> (Ω)	at I <sub>Z</sub> (mA)	I <sub>Rmax.</sub> (μA)	at V <sub>R</sub> (V)
TZX2V4	2.3	2.6	TZX2V4A	2.3	2.5	100	5	5	0.5
TZX2V4	2.3	2.6	TZX2V4B	2.4	2.6	100	5	5	0.5
TZX2V7	2.5	2.9	TZX2V7A	2.5	2.7	100	5	5	0.5
TZX2V7	2.5	2.9	TZX2V7B	2.6	2.8	100	5	5	0.5
TZX2V7	2.5	2.9	TZX2V7C	2.7	2.9	100	5	5	0.5
TZX3V0	2.8	3.2	TZX3V0A	2.8	3.0	100	5	5	0.5
TZX3V0	2.8	3.2	TZX3V0B	2.9	3.1	100	5	5	0.5
TZX3V0	2.8	3.2	TZX3V0C	3.0	3.2	100	5	5	0.5
TZX3V3	3.1	3.5	TZX3V3A	3.1	3.3	100	5	5	1
TZX3V3	3.1	3.5	TZX3V3B	3.2	3.4	100	5	5	1
TZX3V3	3.1	3.5	TZX3V3C	3.3	3.5	100	5	5	1
TZX3V6	3.4	3.8	TZX3V6A	3.4	3.6	100	5	5	1
TZX3V6	3.4	3.8	TZX3V6B	3.5	3.7	100	5	5	1
TZX3V6	3.4	3.8	TZX3V6C	3.6	3.8	100	5	5	1
TZX3V9	3.7	4.1	TZX3V9A	3.7	3.9	100	5	5	1
TZX3V9	3.7	4.1	TZX3V9B	3.8	4.0	100	5	5	1
TZX3V9	3.7	4.1	TZX3V9C	3.9	4.1	100	5	5	1
TZX4V3	4.0	4.5	TZX4V3A	4.0	4.2	100	5	5	1.5
TZX4V3	4.0	4.5	TZX4V3B	4.1	4.3	100	5	5	1.5
TZX4V3	4.0	4.5	TZX4V3C	4.2	4.4	100	5	5	1.5
TZX4V3	4.0	4.5	TZX4V3D	4.3	4.5	100	5	5	1.5
TZX4V7	4.4	4.9	TZX4V7A	4.4	4.6	100	5	5	2
TZX4V7	4.4	4.9	TZX4V7B	4.5	4.7	100	5	5	2
TZX4V7	4.4	4.9	TZX4V7C	4.6	4.8	100	5	5	2
TZX4V7	4.4	4.9	TZX4V7D	4.7	4.9	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1A	4.8	5.0	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1B	4.9	5.1	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1C	5.0	5.2	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1D	5.1	5.3	100	5	5	2
TZX5V6	5.2	5.9	TZX5V6A	5.2	5.5	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6B	5.3	5.6	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6C	5.4	5.7	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6D	5.5	5.8	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6E	5.6	5.9	40	5	5	2
TZX6V2	5.7	6.6	TZX6V2A	5.7	6.0	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2B	5.8	6.1	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2C	6.0	6.3	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2D	6.1	6.4	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2E	6.3	6.6	15	5	1	3
TZX6V8	6.4	7.2	TZX6V8A	6.4	6.7	15	5	1	3.5
TZX6V8	6.4	7.2	TZX6V8B	6.6	6.9	15	5	1	3.5
TZX6V8	6.4	7.2	TZX6V8C	6.7	7.0	15	5	1	3.5
TZX6V8	6.4	7.2	TZX6V8D	6.9	7.2	15	5	1	3.5
TZX7V5	7.0	7.9	TZX7V5A	7.0	7.3	15	5	1	5.0
TZX7V5	7.0	7.9	TZX7V5B	7.2	7.6	15	5	1	5.0

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Type	V <sub>Zmin.</sub> (V)	V <sub>Zmax.</sub> (V)	Type	V <sub>Zmin.</sub> (V)	V <sub>Zmax.</sub> (V)	r <sub>Zmax.</sub> (Ω)	at I <sub>Z</sub> (mA)	I <sub>Rmax.</sub> (μA)	at V <sub>R</sub> (V)
TZX7V5	7.0	7.9	TZX7V5C	7.3	7.7	15	5	1	5.0
TZX7V5	7.0	7.9	TZX7V5D	7.5	7.9	15	5	1	5.0
TZX8V2	7.7	8.7	TZX8V2A	7.7	8.1	20	5	1	6.2
TZX8V2	7.7	8.7	TZX8V2B	7.9	8.3	20	5	1	6.2
TZX8V2	7.7	8.7	TZX8V2C	8.1	8.5	20	5	1	6.2
TZX8V2	7.7	8.7	TZX8V2D	8.3	8.7	20	5	1	6.2
TZX9V1	8.5	9.7	TZX9V1A	8.5	8.9	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1B	8.7	9.1	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1C	8.9	9.3	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1D	9.1	9.5	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1E	9.3	9.7	20	5	1	6.8
TZX10	9.5	10.6	TZX10A	9.5	9.9	25	5	1	7.5
TZX10	9.5	10.6	TZX10B	9.7	10.1	25	5	1	7.5
TZX10	9.5	10.6	TZX10C	9.9	10.3	25	5	1	7.5
TZX10	9.5	10.6	TZX10D	10.2	10.6	25	5	1	7.5
TZX11	10.4	11.6	TZX11A	10.4	10.8	25	5	1	8.2
TZX11	10.4	11.6	TZX11B	10.7	11.1	25	5	1	8.2
TZX11	10.4	11.6	TZX11C	10.9	11.3	25	5	1	8.2
TZX11	10.4	11.6	TZX11D	11.1	11.6	25	5	1	8.2
TZX12	11.4	12.7	TZX12A	11.4	11.9	35	5	1	9.5
TZX12	11.4	12.7	TZX12B	11.6	12.1	35	5	1	9.5
TZX12	11.4	12.7	TZX12C	11.9	12.4	35	5	1	9.5
TZX12	11.4	12.7	TZX12D	12.2	12.7	35	5	1	9.5
TZX13	12.4	13.4	TZX13A	12.4	12.9	35	5	1	10
TZX13	12.4	13.4	TZX13B	12.6	13.1	35	5	1	10
TZX13	12.4	13.4	TZX13C	12.9	13.4	35	5	1	10
TZX14	13.2	14.3	TZX14A	13.2	13.7	35	5	1	11
TZX14	13.2	14.3	TZX14B	13.5	14.0	35	5	1	11
TZX14	13.2	14.3	TZX14C	13.8	14.3	35	5	1	11
TZX15	14.1	15.5	TZX15A	14.1	14.7	40	5	1	11.5
TZX15	14.1	15.5	TZX15B	14.5	15.1	40	5	1	11.5
TZX15	14.1	15.5	TZX15C	14.9	15.5	40	5	1	11.5
TZX16	15.3	17.1	TZX16A	15.3	15.9	45	5	1	12
TZX16	15.3	17.1	TZX16B	15.7	16.5	45	5	1	12
TZX16	15.3	17.1	TZX16C	16.3	17.1	45	5	1	12
TZX18	16.9	19.0	TZX18A	16.9	17.7	55	5	1	13
TZX18	16.9	19.0	TZX18B	17.5	18.3	55	5	1	13
TZX18	16.9	19.0	TZX18C	18.1	19.0	55	5	1	13
TZX20	18.8	21.2	TZX20A	18.8	19.7	60	2	1	15
TZX20	18.8	21.2	TZX20B	19.5	20.4	60	2	1	15
TZX20	18.8	21.2	TZX20C	20.2	21.2	60	2	1	15
TZX22	20.9	23.3	TZX22A	20.9	21.9	65	2	1	17
TZX22	20.9	23.3	TZX22B	21.6	22.6	65	2	1	17
TZX22	20.9	23.3	TZX22C	22.3	23.3	65	2	1	17
TZX24	22.9	25.5	TZX24A	22.9	24.0	70	2	1	19
TZX24	22.9	25.5	TZX24B	23.6	24.7	70	2	1	19

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Type	V <sub>Zmin.</sub> (V)	V <sub>Zmax.</sub> (V)	Type	V <sub>Zmin.</sub> (V)	V <sub>Zmax.</sub> (V)	r <sub>Zmax.</sub> (Ω)	at I <sub>Z</sub> (mA)	I <sub>Rmax.</sub> (μA)	at V <sub>R</sub> (V)
TZX24	22.9	25.5	TZX24C	24.3	25.5	70	2	1	19
TZX27	25.2	28.6	TZX27A	25.2	26.6	80	2	1	21
TZX27	25.2	28.6	TZX27B	26.2	27.6	80	2	1	21
TZX27	25.2	28.6	TZX27C	27.2	28.6	80	2	1	21
TZX30	28.2	31.6	TZX30A	28.2	29.6	100	2	1	23
TZX30	28.2	31.6	TZX30B	29.2	30.6	100	2	1	23
TZX30	28.2	31.6	TZX30C	30.2	31.6	100	2	1	23
TZX33	31.2	34.5	TZX33A	31.2	32.6	120	2	1	25
TZX33	31.2	34.5	TZX33B	32.2	33.6	120	2	1	25
TZX33	31.2	34.5	TZX33C	33.2	34.5	120	2	1	25
TZX36	34.2	38.0	TZX36A	34.2	35.7	140	2	1	27
TZX36	34.2	38.0	TZX36B	35.3	36.8	140	2	1	27
TZX36	34.2	38.0	TZX36C	36.4	38.0	140	2	1	27

### Characteristics (T<sub>j</sub> = 25°C unless otherwise specified)

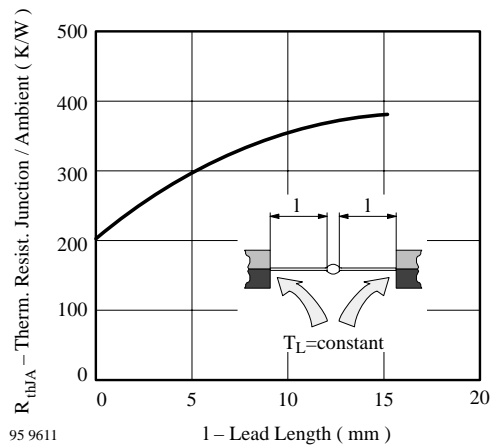


Figure 1. Thermal Resistance vs. Lead Length

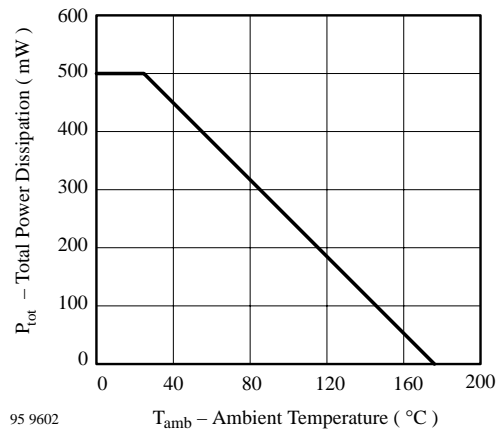
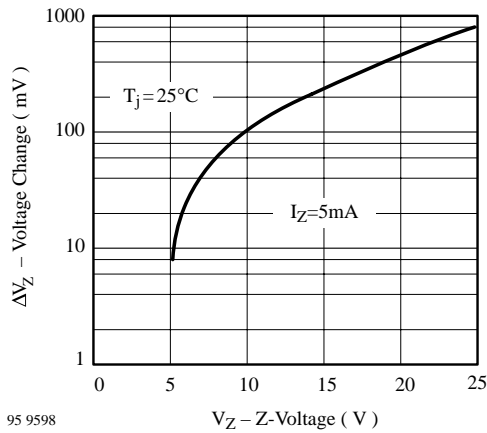
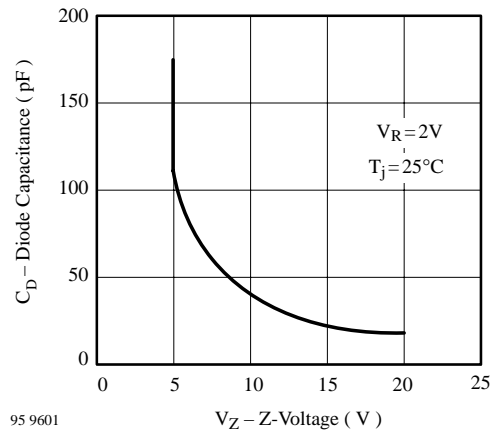


Figure 2. Total Power Dissipation vs. Ambient Temperature

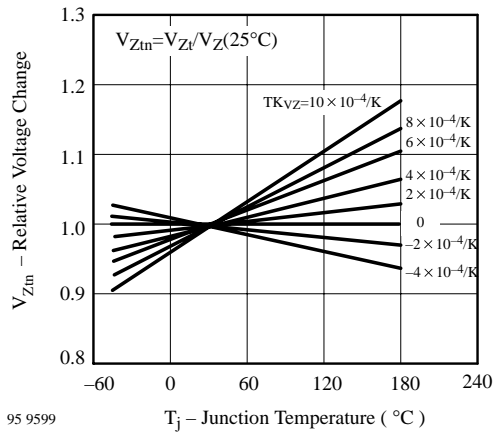
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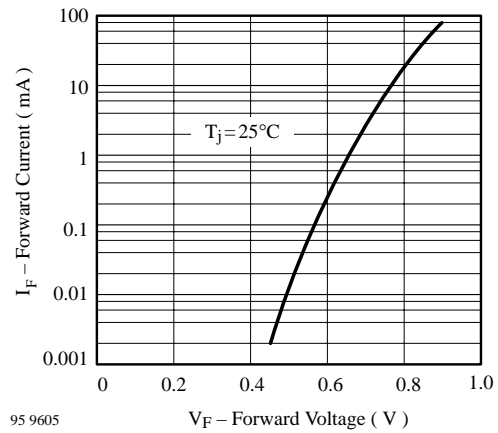
95 9598  
Figure 3. Typical Change of Working Voltage under Operating Conditions at  $T_{amb}=25^{\circ}C$



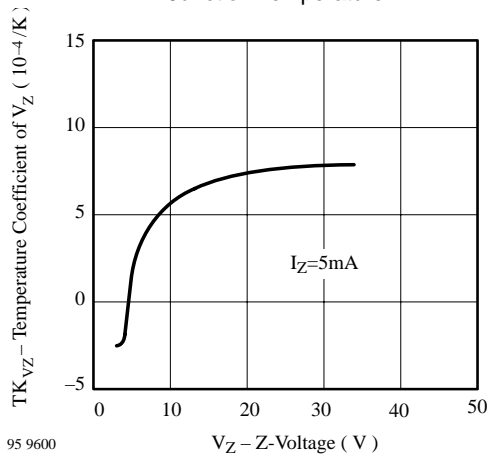
95 9601  
Figure 6. Diode Capacitance vs. Z-Voltage



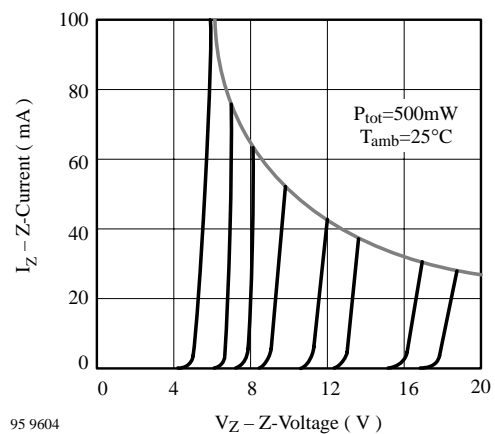
95 9599  
Figure 4. Typical Change of Working Voltage vs. Junction Temperature



95 9605  
Figure 7. Forward Current vs. Forward Voltage

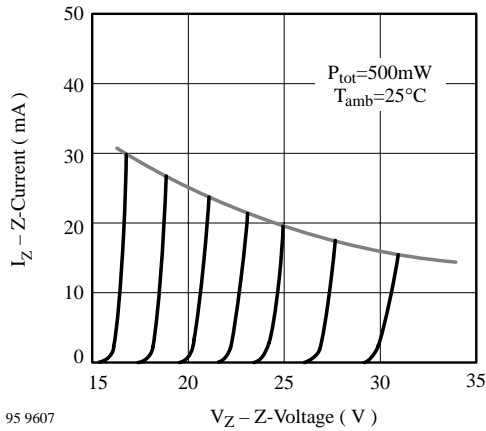


95 9600  
Figure 5. Temperature Coefficient of  $V_Z$  vs. Z-Voltage



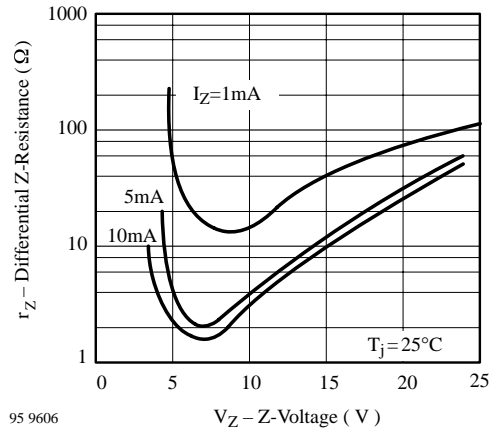
95 9604  
Figure 8. Z-Current vs. Z-Voltage

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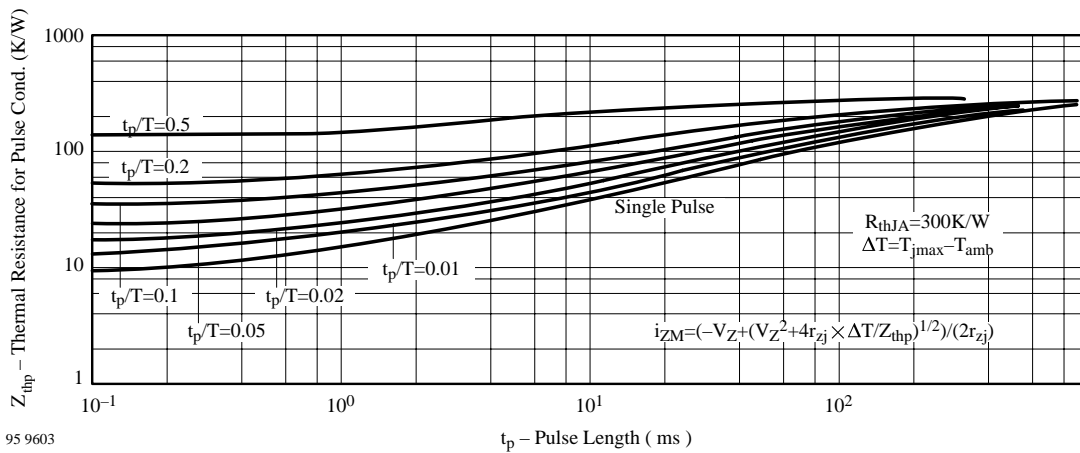
95 9607

Figure 9. Z-Current vs. Z-Voltage



95 9606

Figure 10. Differential Z-Resistance vs. Z-Voltage



95 9603

Figure 11. Thermal Response



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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel; 10Kpcs/Reel
(Part Number)-AP	Ammo Packing;5Kpcs/AmmoBox
(Part Number)-BP	Bulk;500pcs/Box

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